

Response  
Serial No. 10/719,020  
Attorney Docket No. 032130

## **AMENDMENTS TO THE CLAIMS**

This listing of claims replaces all prior versions of claims in the application.

### **Listing of Claims**

Claim 1 (currently amended): A plating bath for formation of a thin resistance layer on a surface of a conductive base, comprising: ~~wherein said plating bath includes~~  
nickel ions; [[and]]  
sulfamic acid or its salt; ~~as essential components~~ and  
at least one of phosphoric acid, phosphorous acid, hypophosphorous acid, and salts of the same at a concentration of phosphorus of 20 to 150g/L.

Claim 2 (currently amended): A plating bath for formation of a thin resistance layer as set forth in claim 1, further comprising ~~wherein said plating bath further includes~~ at least one of sulfuric acid, hydrochloric acid, and salts of the same.

Claim 3 (currently amended): A plating bath for formation of a thin resistance layer as set forth in claim 1, wherein a pH of the plating bath is made not more than 6.

Claim 4 (currently amended): A plating bath for formation of a thin resistance layer as set forth in claim 2, wherein a pH of the plating bath is made not more than 6.

Response  
Serial No. 10/719,020  
Attorney Docket No. 032130

Claim 5 (original): A method of formation of a thin resistance layer in a plating bath as set forth in any one of claims 1 to 4, wherein said thin resistance layer is formed in a range of bath temperature of 30 to 80°C.

Claim 6 (original): A method of formation of a thin resistance layer in a plating bath as set forth in any one of claims 1 to 4, wherein said thin resistance layer is formed in a range of current density of 1 to 30 A/dm<sup>2</sup>.

Claim 7 (original): A method of formation of a thin resistance layer in a plating bath as set forth in any one of claims 1 to 4, wherein said thin resistance layer is formed using an insoluble anode.

Claim 8 (currently amended): A conductive base with a resistance layer wherein a thin resistance layer comprised of an Ni alloy layer containing 2 to 30 wt% of P is formed on the surface of the conductive base ~~by a method of formation of a thin resistance layer~~ in a plating bath as set forth in any one of claims 1 to 4 in a range of bath temperature of 30 to 80°C.

Claim 9 (currently amended): A conductive base with a resistance layer wherein a thin resistance layer comprised of an Ni alloy layer containing 2 to 30 wt% of P is formed on the surface of the conductive base ~~by a method of formation of a thin resistance layer~~ in a plating bath as set forth in any one of claims 1 to 4 in a range of current density of 1 to 30 A/dm<sup>2</sup>.

Response  
Serial No. 10/719,020  
Attorney Docket No. 032130

Claim 10 (currently amended): A conductive base with a resistance layer wherein a thin resistance layer comprised of an Ni alloy layer containing 2 to 30 wt% of P is formed on the surface of the conductive base ~~by a method of formation of a thin resistance layer~~ in a plating bath as set forth in any one of claims 1 to 4 using an insoluble anode.

Claim 11 (original): A conductive base with a resistance layer as set forth in claim 8 wherein at least the surface on which the resistance layer is formed has a roughness Rz of not more than 3.5  $\mu\text{m}$ .

Claim 12 (original): A conductive base with a resistance layer as set forth in claim 9 wherein at least the surface on which the resistance layer is formed has a roughness Rz of not more than 3.5  $\mu\text{m}$ .

Claim 13 (original): A conductive base with a resistance layer as set forth in claim 10 wherein at least the surface on which the resistance layer is formed has a roughness Rz of not more than 3.5  $\mu\text{m}$ .

Claim 14 (original): A circuit board material with a resistance layer comprised of an insulating substrate to at least one surface of which a conductive base with a resistance layer as set forth in claim 8 is adhered with the resistance layer at the base at the inside.

Response  
Serial No. 10/719,020  
Attorney Docket No. 032130

Claim 15 (original): A circuit board material with a resistance layer comprised of an insulating substrate to at least one surface of which a conductive base with a resistance layer as set forth in claim 9 is adhered with the resistance layer at the base at the inside.

Claim 16 (original): A circuit board material with a resistance layer comprised of an insulating substrate to at least one surface of which a conductive base with a resistance layer as set forth in claim 10 is adhered with the resistance layer at the base at the inside.

Claim 17 (original): A circuit board material with a resistance layer comprised of an insulating substrate to at least one surface of which a conductive base with a resistance layer as set forth in claim 11 is adhered with the resistance layer at the base at the inside.

Claim 18 (original): A circuit board material with a resistance layer comprised of an insulating substrate to at least one surface of which a conductive base with a resistance layer as set forth in claim 12 is adhered with the resistance layer at the base at the inside.

Claim 19 (original): A circuit board material with a resistance layer comprised of an insulating substrate to at least one surface of which a conductive base with a resistance layer as set forth in claim 13 is adhered with the resistance layer at the base at the inside.